

**Practitioner's Docket No.:** 939\_079

***PATENT***

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the Application of: Teruo HIGA

Serial No.: 10/589,795

Group Art Unit: 1651

Filed: August 17, 2006

Examiner: Taeyoon Kim

Conf. No.: 8688

For: DETERGENT MADE USE OF FERMENTATION TECHNOLOGY AND  
PRODUCTION METHOD THEREOF

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION UNDER 37 CFR §1.132**

Sir:

I, Teruo Higa, a citizen of Japan hereby declare and state:

1. I have a Ph.D. of Agriculture from the Graduate School of Agriculture which was conferred upon me by Kyushu University in Fukuoka-city, Fukuoka Prefecture, Japan, in 1970.

2. I am the owner of EM Research Organization, Inc. since 1994 and I have had a total of 29 years of work and research experience in application of EM (Effective Microorganisms) microbial inoculants Technology in Agriculture and Environmental management.

3. I am a Professor and Chief Director of International Institute for EM Technology of Meio University in Nago-city, Okinawa, Japan.

4. I am the inventor of the above-identified patent application and I am familiar with the references applied in the Office Action mailed March 24, 2009.

5. The differences between the present invention and disclosure in EP'108 are explained below.

6. The objective of EP '108, which was cited by the PTO in the Office Action, is to provide waste water, after washing with soap, with a positive water-cleaning action using pineapple enzymes. The specific process of EP '108 includes: mixing porous materials (comprising a ceramic powder) with pineapple juice; fermenting the mixture concurrently; and mixing the fermented porous materials holding the pineapple enzymes and soap itself in a process of producing soap.

7. On the other hand, the main objective of the present invention is to enhance the degree of saponification of fat in a soap production process while strengthening the cleaning power of the soap and enabling the soap to purify sewage water. In order to achieve the above objective, the ceramic powder is mixed with a soap raw material, and in this respect the present invention is completely different from EP '108. The ceramic powder in the present invention is a functional ceramic, which, as any skilled artisan would readily appreciate, is not the same as the ceramic powder of EP '108, which is simply a porous material.

8. In conclusion, while EP '108 describes a detergent composition formed simply by mixing a completed soap and processed porous materials, the present invention relates to a detergent composition formed by mixing EM and EM-X ceramic powder with a soap raw material in order to enhance the degree of saponification of fat in the soap production process and to further improve the efficiency and quality of the soap itself. Thus, the entire objective and process of the present invention is different from that of EP '108.

9. EP '108 describes that a fermentation process is performed by mixing porous materials (comprising a ceramic powder) and pineapple juice and then leaving the mixture for a period of time. Normally, microorganisms relating to fermentation are lactic acid bacteria and yeast.

On the other hand, the effective microorganisms according to the present invention include lactic acid bacteria, yeast and photosynthetic bacteria. It is recognized, however, that photosynthetic bacteria does not exist in a normal fermentation process, such as under the conditions disclosed in EP '108. However, the existence of photosynthetic bacteria is necessary in the present invention.

10. As one skilled in the art, I would not have had any logical reason to use EM, based on JP '086, in the detergent composition of EP '108. As explained above, EP '108 does not disclose or suggest anything regarding enhancing the efficiency of the soap itself by mixing a ceramic powder with a soap raw material.

11. Further, the microorganisms disclosed in JP '086 are not disclosed or suggested in connection with the fermentation process described in EP '108, and would not have been expected to provide any benefits to the fermentation process of EP '108. There would be no need to add additional EM to EP '108 since no benefits would have been expected in the context of the fermentation process of EP '108.

12. One skilled in the art would not have had any logical expectation that the EM in JP '086 would necessarily include lactic acid bacteria, yeast and photosynthetic bacteria, based on my US '065 patent. The invention disclosed in JP '086 is a method for proliferating EM on a porous material by improving the conditions of the porous material as a colony for the EM, and there is no disclosure or suggestion that the EM is used in connection with a detergent.

13. Further, one skilled in the art would not have had any logical reason to use EM-X, based on JP '144, instead of the ceramic powder of JP '086 in EP '108, because such a skilled artisan would not have needed to look to JP '086 in the first place since EP '108

merely requires porous materials for delivering pineapple enzymes, such as a ceramic powder as a porous material. EP '108 does not require a functional ceramic in order to achieve its objective, and one skilled in the art would not have expected any additional benefits in using a functional ceramic instead, much less EM-X.

14. JP '144 discloses that EM ceramic is formed by mixing EM · X and clay and then baking the mixture, which, contrary to the PTO's position, is not the same as an EM ceramic combined with EM-X comprising an antioxidant enzyme in the present invention. It is my understanding, as one skilled in the art, that EP '108 discloses a detergent composition formed by fermenting porous materials comprising a ceramic powder, but the Examiner has misinterpreted the term "fermentation" as being the same as "adding EM (microorganisms)."

For at least the reasons explained above, it is my belief that the cited references could not have been logically combined in the manner asserted in the Office Action, and one skilled in the art, such as myself, could not have arrived at the present invention based on the teachings in the applied references.

7. I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Date: 7/22/2009

Teruo Higa  
Teruo HIGA